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THE ARMY AMBULATORY CARE DATA BASE (ACDB) STUDY:
IMPLEMENTATION AND PRELIMINARY DATA

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The ACDB was performed under the ambulatory portion of the Tri-Service Performance Measurement Study (PMS). The purpose of the PMS was to develop an alternative measure for military medical work units. Outpatient data collected in over 70 clinical specialties at six medical facilities over a 21-month period using optical mark sense technology is stored in a central data base at Fort Detrick, Maryland. A total of 3,108,741 patient encounters were captured. Forty-four clinic encounter variables include diagnoses, procedures performed, time spent with patient, type of provider, and place of visit. Fourteen patient demographic variables and seven health care provider variables were also captured. Reliability of data was verified by a manual review of data collected against the medical record entries for 9,015 patient encounters at the six sites. Analysis of data will be covered in subsequent reports. Keywords: Biomedical Information Systems, Records Management, Optical Scanning, Computers. (AW)

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INTRODUCTION

In providing more than 22 million outpatient visits per year
the U.S. Army Medical Department (AMEDD) is one of the largest Health
Maintenance Organizations in the world. Accordingly, the need for an
Ambulatory Care Data Base to provide management, epidemiological, and cost
indicators has long been recognized by the Army Surgeon General. An initial
step toward the feasibility of such a data base was made in November of 1982
when a 6-month study was undertaken to collect outpatient medical care
information (including demographic and workload data, and patient diagnoses)
at Fox Army Community Hospital, Redstone Arsenal, Huntsville, Alabama. Based
on the results of this study, the study directors recommended that the optical
scanning data collection methodology (with some modifications) be evaluated
further at other sites. Before the recommended project could be funded by the
U.S. Army Health Services Command, the methodology was incorporated into the
ambulatory portion of the AMEDD Performance Measurement Study (PMS) which was
subsumed under the DOD Tri-Service Performance Measurement Study in 1986. The
purpose of the Tri-Service PMS was to develop a viable alternative to the
present method of measuring military medical work units using multiple
variables to accurately reflect the complexity involved in resource allocation
for ambulatory services.

As the ambulatory portion of the Tri-Service Performance Measurement
Study, the ambulatory care study was developed with three major objectives:

1. Develop a decentralized and automated system necessary for an
ambulatory data base.

2. Insure that the data base has relevance for clinical practice and
research.

3. Evaluate the system's feasibility for continued use and expansion

(including the development of a very extensive clinical data base) were accomplished. More than 4,000 health care providers participated in the project. These providers cared for over 792,000 patients who represented some 3.1 million patient visits. Additionally, the care provided represented 70 clinical specialties and provided detailed information on 4,300 diagnoses and 1,700 procedures.
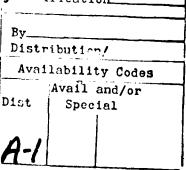
CONCLUSIONS

The first objective of the study, the development of a decentralized and automated system for an ambulatory data base, was successfully accomplished. Optical scanner technology for data collection was used effectively for a 21-month period and appeared to be the best choice considering all the limitations of resources and time.

The second objective was to insure that the data base had relevance for clinical practice and research. Many of the variables chosen for data collection were selected with this objective in mind. Future plans include using this collected information to identify clinical practice patterns and epidemiological patterns.

The final objective dealt with evaluation of the system for further use and expansion throughout the AMEDD. Before implementing the system for use over an extended period of time, further evaluation would be necessary. This would include a review of available computer hardware as well as an assessment of the impact on providers and clerical support.

Additional volumes are planned regarding data reliability, study participant attitudes, and analysis of data by clinical specialty.

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